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STANLICK

OPERATION AND MAINTENANCE

COST IN RECREATION AREAS

PROSPECTUS

by

HAROLD STANLICK (1986)

Region 9

## ABSTRACT

### I. Introduction

Management has a need to know the operation and maintenance costs in different types of recreation camping sites. It is relatively easy to estimate construction costs, however, cost estimates for operation and maintenance have had very little data to substantiate them.

### II. Purpose of Project

The purpose of this project is to develop a technique to collect data on operation and maintenance costs of campgrounds. The specific objectives to be accomplished in this project are:

1. Identify the factors which must be considered as costs of operation and maintenance.
2. Develop a daily record sheet.
3. Develop a year-end summary sheet.

4. Identify Forests in Region 9 willing to pilot the data collected.

5. Analyze pilot data collected.

6. Make recommendations for changes in collection program.

### III. Considerations

Costs are to include:

- Travel time of people involved with operation or maintenance.
- Time at site of people involved with operation or maintenance.
- Replacement parts
- Operating materials
- Contract costs (pumping, etc.)
- Testing costs
- Vehicle

# A Field Study of Operation and Maintenance of Campgrounds

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## CHAPTER I

### INTRODUCTION

The Forest Service has campgrounds in sizes of 2 units to over 200 units. It has sometimes been assumed that it is more cost effective to operate larger campgrounds than it is small ones. Data have not existed in the past however to accurately assess the correlation between size of campground and operation and maintenance costs.

#### Purpose of Project

1. Identify the factors which must be considered as cost of operation and maintenance.
2. Develop a daily record sheet.
3. Develop a year-end summary sheet.
4. Identify Forests in Region 9 willing to pilot the data collection program.
5. Analyze pilot data collected.
6. Make recommendations for changes in collection program.

## CHAPTER II

### METHODS

Campgroups were selected from Forests throughout Region 9 to pilot the data collection technique. The Forest Supervisor was contacted on each Forest that a campground monitoring was proposed. The Supervisor contact was needed as it would take time and effort by Forest personnel to collect the data.

The data were to be collected on a daily record sheet (Figure I) and an end-of-the year cost sheet (Figure II.)

Volunteer time and input was very hard to record and track. Since all campground hosts are volunteers it is difficult to estimate their time as they are there day and night. An estimate of 16 hours per day was used. All costs are a yearly cost.

### CHAPTER III

#### RESULTS AND DISCUSSION

Participating campgrounds were divided into the following groups based on size: very small (2-3 units), small (6-10 units), medium (21-54 units), large (95-227 UNITS).

##### Very Small Campgrounds

Data on costs were collected and tabulated in TABLE 1. All the sites had vault toilets. There was no water or electric power to the sites except one site had a handpump. None of the sites charged for camping, consequently there was no income.

The campgrounds that were the longest distance from the Ranger Stations had the highest costs. The water testing also increased the cost at site 4v.

TABLE 1  
VERY SMALL CAMPGROUNDS

			OTHER	TOTAL	COST PR
CAMPGROUND	NO. OF UNITS	SALARIES	COSTS	COSTS	UNIT
1V	3	339.75	181.17	520.92	173.64
2V	2	289.90	238.15	528.05	264.03
3V	3	163.08	259.38	422.46	140.82
4V	3	1091.00	665.00	1756.00	585.33
5V	2	928.00	280.00	1208.00	604.00

V = Vault Toilets

AVE. COST PR UNIT 353.56

### Small Campgrounds

Data on costs were collected and tabulated in TABLE 2 for small campgrounds. Three sites had handpumps and vault toilets and one site had running water and flush toilets. Site 2S was on a lake and this generated the highest income of the sample though it had the smallest number of campsites. When looking at TABLE 2 you should take into account that Site S2 had \$1,100 cost in law enforcement and Site S4 had \$1,500 of building maintenance and is a great distance from the Ranger Station.

TABLE 2  
SMALL CAMPGROUNDS

			OTHER	TOTAL	COST PR
CAMPGROUND	NO. OF UNITS	SALARIES	COSTS	COSTS	UNIT
1S-V	6	1083.05	1986.91	3069.96	511.66
2S-V-L	6	1292.94	2373.26	3662.05	610.34
3S-V	7	640.09	562.41	1202.50	171.79
4S-F	10	3103.55	3622.00	6725.55	672.56

AVE. COST PR UNIT 491.58

S = Small Campground      V = Vault Toilet      F = Flush Toilet

L = Lake

### Medium Campground

Data on costs were collected and tabulated in TABLE 3. Two sites had handpumps and vault toilets. Two sites had flush toilets on septic systems and running water. All the sites were on lakes so the attraction to the sites were for the same reasons and some comparison of costs and preferred facilities can be made. Site 4M had \$2000 in maintenance to buildings as compared to \$500 or less at the other sites.

All sites showed more income than it took to operate and maintain them. Sites 3M and 4M were the smallest campgrounds and were also the sites with flush toilets and running water. They had the highest income per unit and had the heaviest used. It was just as economical or more economical to have an improved campground with septic systems as it was a forest type campground. The medium size campgrounds were much more cost effective than small and very small campgrounds.

TABLE 3  
Medium Campgrounds

			OTHER	TOTAL	COST PR
CAMPGROUND	NO. OF UNITS	SALARIES	COSTS	COSTS	UNIT
1M-V-L	53	5481.39	3475.39	8956.78	168.99
2M-V-L	54	3018.31	1498.14	4516.45	83.64
3M-F-L	32	3849.46	2069.38	5918.84	184.97
4M-F-L	21	2770.27	4033.00	6803.27	323.96

AVE. COST PR UNIT 190.39

M = Medium Campground

V = Vault Toilets

F = Flush Toilets

L = Lake

### Large Campgrounds

Notes on costs were collected and tabulated in Table 4. Two sites had handpumps and vault toilets. Three sites had flush toilets and running water. All sites were on lakes so again the attraction to the sites were for the same reasons and some comparison of cost and preferred facilities can be made. Site 3L had \$8000 in law enforcement where others had none to very little. Site 3L also had over \$8000 in building maintenance, twice as much as 1L and six times as much as 2L and 4L. Site 3L also had salaries two to four times the other sites. Site 5L was on concession with no income to the Forest Service, just a cost of administering the contract at \$58 per site per year.

Only one site had more income than it took to operate and maintain them. This did not coincide with the theory that the bigger the campground the more economical to administer. Site 2L had a very high cost wastewater system. When it is replaced with a more cost effective systems, the income should exceed operation and maintenance costs. Site 3L has a problem of being a long distance from the Ranger Station.

TABLE 4  
LARGE CAMPGROUNDS

			OTHER	TOTAL	COST PR
CAMPGROUND	NO. OF UNITS	SALARIES	COSTS	COSTS	UNIT
1L-F-L	168	24466.00	22705.00	47171.00	280.78
2L-F-L	227	13555.00	26720.00	40275.00	177.42
3L-F-L	190	58649.82	46787.61	105437.43	554.93
4L-V-L	100	16207.220	16005.00	32212.22	322.12
5L-V-L	95	4771.59	731.75	5503.34	57.93

AVE. COST PR UNIT 278.63

L = Large Campground

V = Vault Toilets

F = Flush Toilets

L = Lake

Average cost per site in four groups:

VS \$353.56

S 491.58

M 190.39

L 278.63

## NOTES

## Recreation Campground Operation in Maintenance Costs Page 2

Campground _____	Forest _____	1987
Electrical Cost		\$ _____
Maintenance Materials		\$ _____
Operation Materials		\$ _____
Contract Cost		
Solid Waste		\$ _____
Vault or Sludge Pumping		\$ _____
Testing		\$ _____
		\$ _____
		\$ _____
FOR Mileage		\$ _____
Income		
Camping		\$ _____
Other		\$ _____
Estimate of Unemployment Compensation for last yr. ave./person hr.		\$ _____
Estimate of costs for phone, light, etc that a ranger covers for Recreation work done at Ranger offices. Just write in the name of category used on district and cost.		
_____		\$ _____
_____		\$ _____
_____		\$ _____

## CHAPTER IV

### SUMMARY AND RECOMMENDATIONS

#### Summary

With the present operation and maintenance practice the medium campgrounds are the more cost effective for the Forest Service to administer. Very small campgrounds cost the Forest Service on the average of \$354 per site to administer per year. Small campgrounds cost \$492 per site to administer per year. Medium campgrounds brought in \$190 per site per year. Large campgrounds cost \$279 per site per year to administer. Although the information is limited, the cost to administer the concessioner was \$58 per site per year.

#### Recommendations

1. Analysis of O & M costs must use ongoing cost rather than one time costs or the data must be collected over a longer time to even out the one time cost at each site.
2. The pilot study suggests that a more indepth study is needed before sound conclusions can be made.
3. There should be changes in data collection if a further study is to be made:

- A. Area of region should be picked such as a Forest or number of Forests that have the same type customers or the same type of activities.
- B. Data is too difficult to obtain in a central office such as the RO.
- C. Seventy five to eighty percent of recreation fees are returned to the Forest that collected them. It needs to be decided if the fees should be used to pay for operation and maintenance or for improvements before the data is collected.

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